

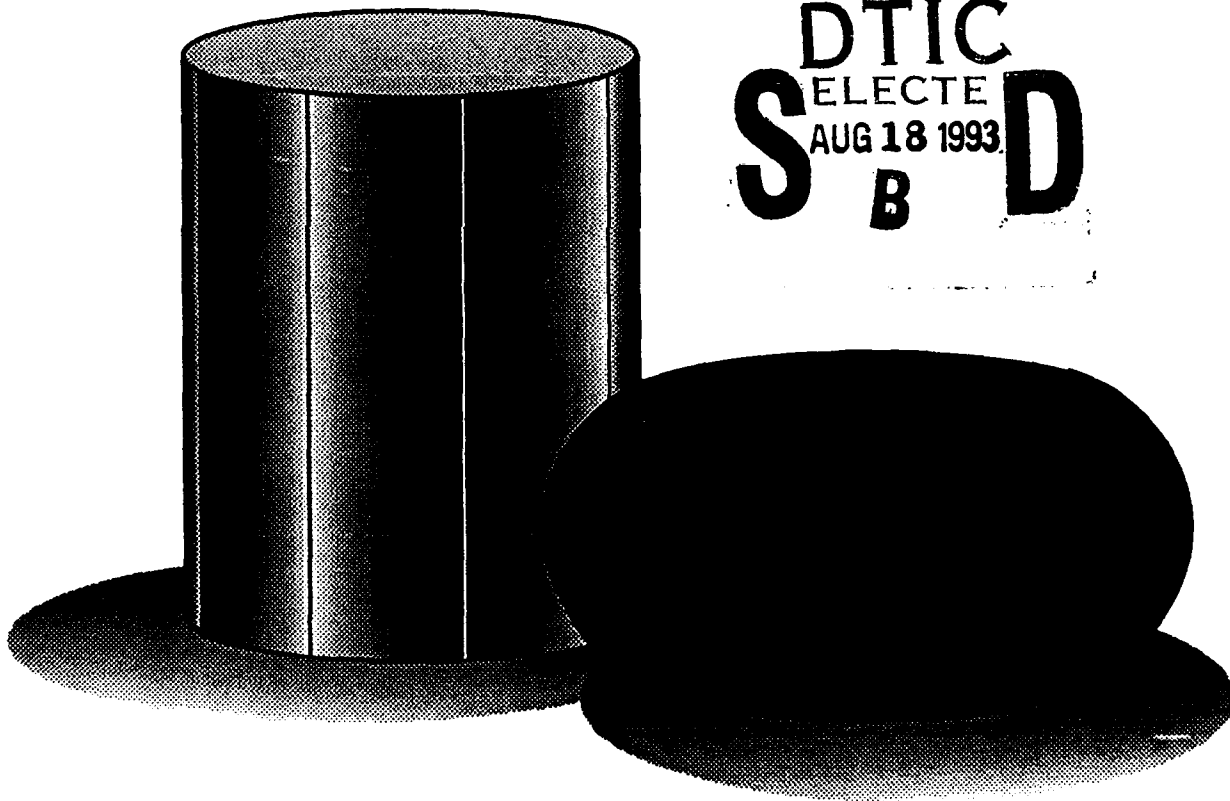
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# Atlas of Formability

Inconel 625  
UNS N06625  
Flow Stress Curves



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ELECTE  
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13. ABSTRACT (Maximum 200 words)  <p>In this investigation, flow behavior of Inconel 625 alloy was studied by conducting compression tests over a wide range of temperatures and strain rates. Stress-strain curves were recorded for each test condition. These data are essential in metalworking process design or finite element analysis of high temperature deformation.</p>				
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**ATLAS OF FORMABILITY**

**INCONEL 625**

**by**

**Howard A. Kuhn**

**National Center for Excellence in Metalworking Technology  
1450 Scalp Avenue  
Johnstown, PA 15904**

**for**

**Naval Industrial Resource Support Activity  
Building 75-2, Naval Base  
Philadelphia, PA 19112-5078**

**February 26, 1991**

**The views, opinions, and/or findings contained in this report are those of the authors and should not be construed as an official Department of the Navy position, policy, or decision, unless so designated by other documentation**

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ST #A, AUTH USNAVIRSA (MR PLONSKY 8/443-6684)  
PER TELECON, 17 AUG 93 CB

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Distribution/	
<b>Availability Codes</b>	
Dist	Avail and/or Special
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## Inconel 625

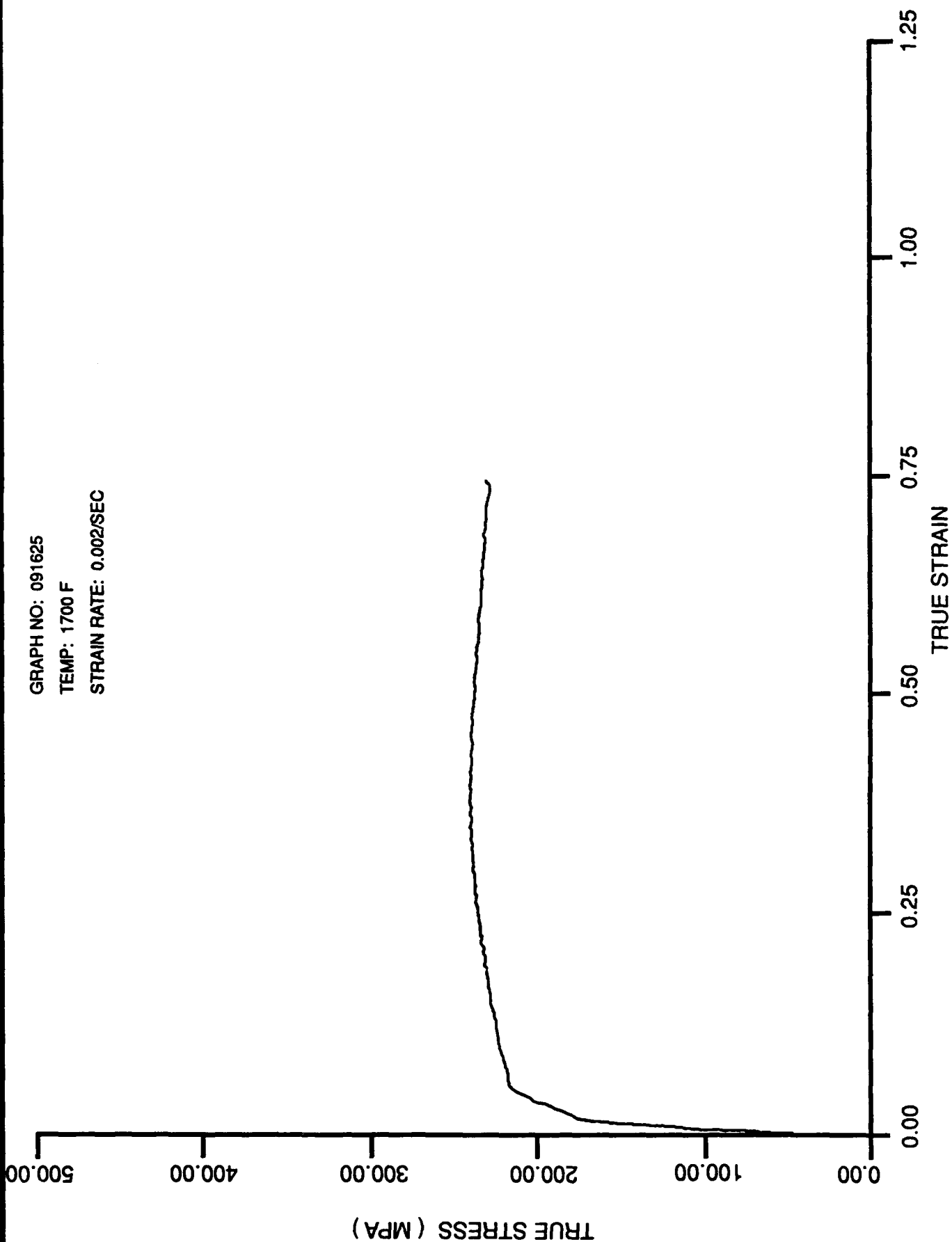
### Composition:

Al 0.40 MAX	C 0.10 MAX	Cb 3.15-4.15	Cr 20.0-23.0	Fe 5.0 MAX	Mn 0.50 MAX
Mo 8.0-10.0	Ni Bal.	P 0.015 MAX	S 0.015 MAX	Si 0.50 MAX	Ti 0.40 MAX

### Testing Parameters

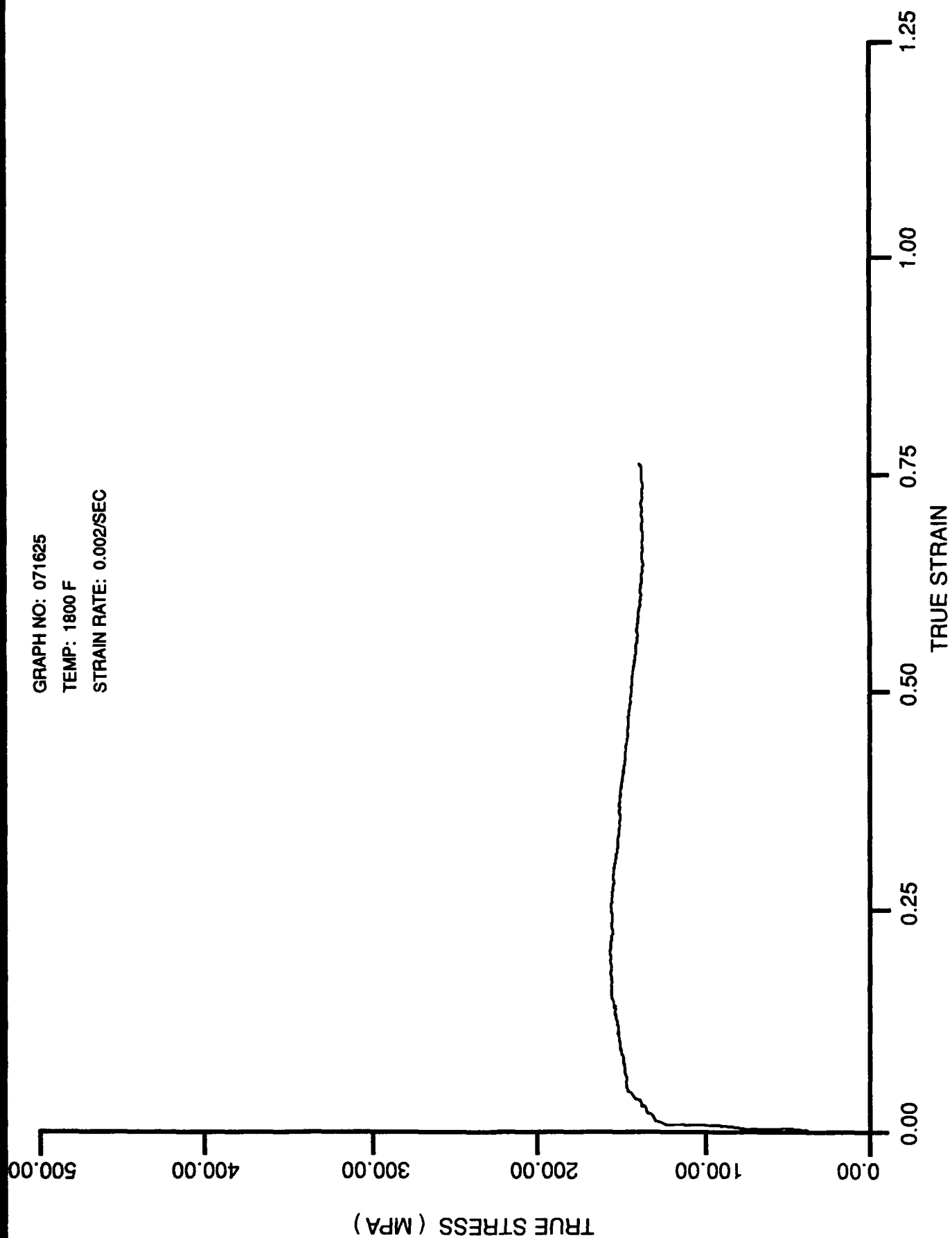
D <sub>0</sub> (inch)	H <sub>0</sub> (inch)	H <sub>f</sub> (inch)	Strain Rate (1/sec.)	Temperature (deg. F)	Graph Number	Page Number
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.500	.750	.338	0.002	1800	071625	3
.500	.750	.316	0.002	1900	061625	4
.500	.750	.355	0.002	2000	031625	5
.500	.750	.338	0.002	2100	021625	6
-	-	-	0.002	Combination	411625	7
.500	.750	.366	0.020	1700	201625	8
.500	.750	.358	0.020	1800	171625	9
.500	.750	.360	0.020	1900	151625	10
.500	.750	.355	0.020	2000	131625	11
.500	.750	.364	0.020	2100	111625	12
-	-	-	0.020	Combination	421625	13
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.500	.750	.358	0.200	1800	281625	15
.500	.750	.369	0.200	1900	261625	16
.500	.750	.361	0.200	2000	231625	17
.500	.750	.354	0.200	2100	211625	18
-	-	-	0.200	Combination	431625	19
.500	.750	.394	0.002, 0.200	1700	311625	20
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GRAPH NO: 091625  
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STRAIN RATE: 0.002/SEC



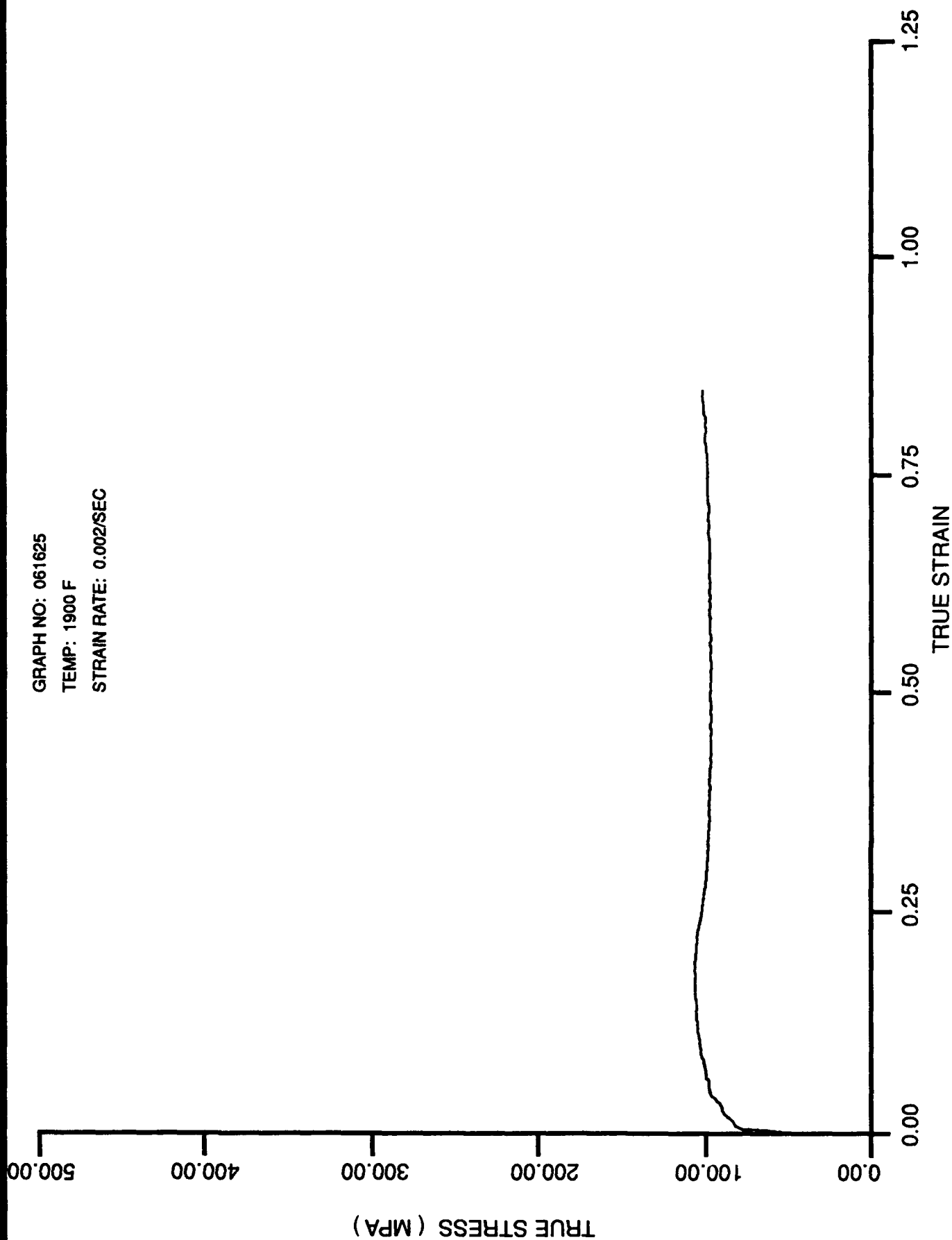
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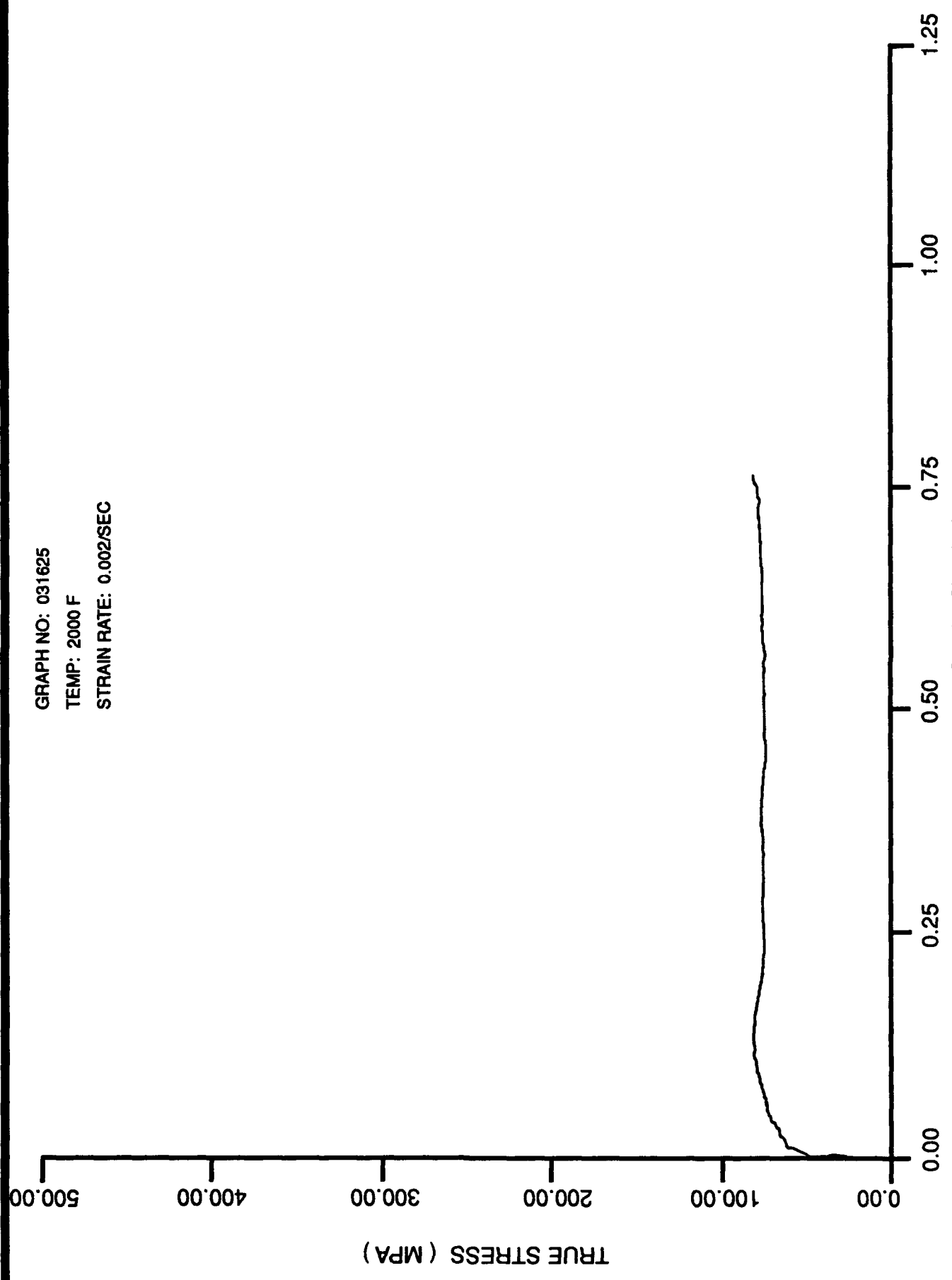


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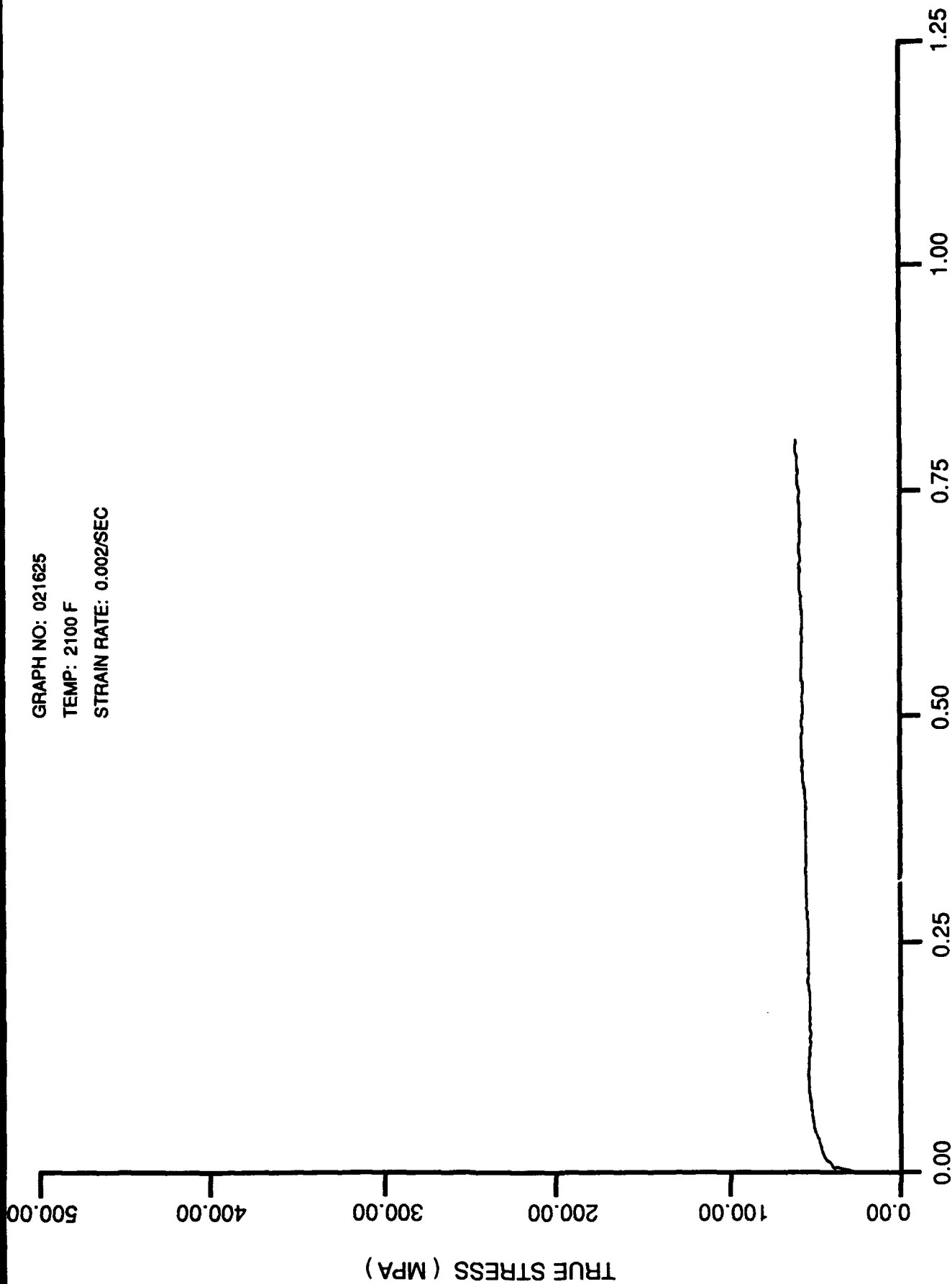
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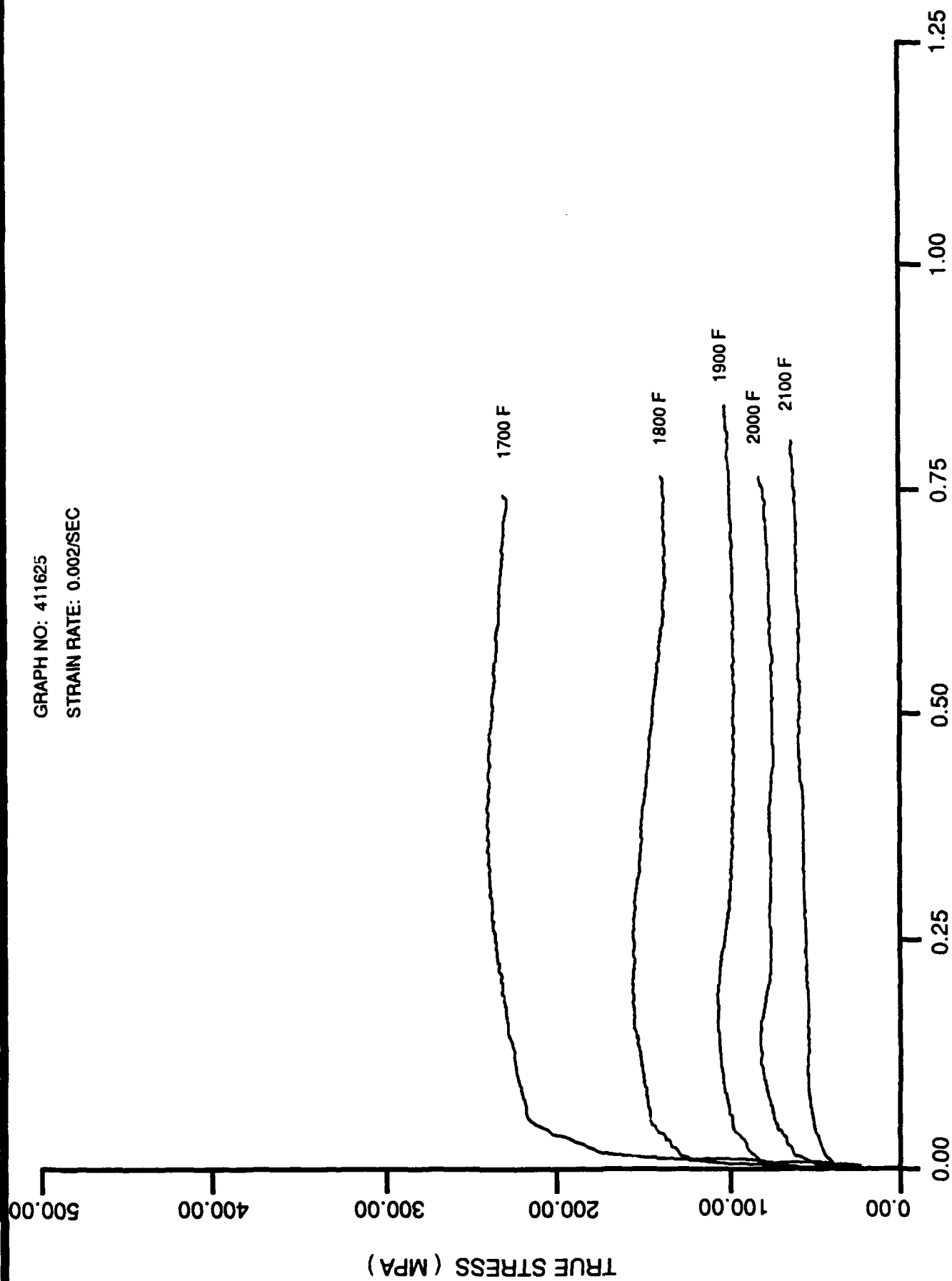


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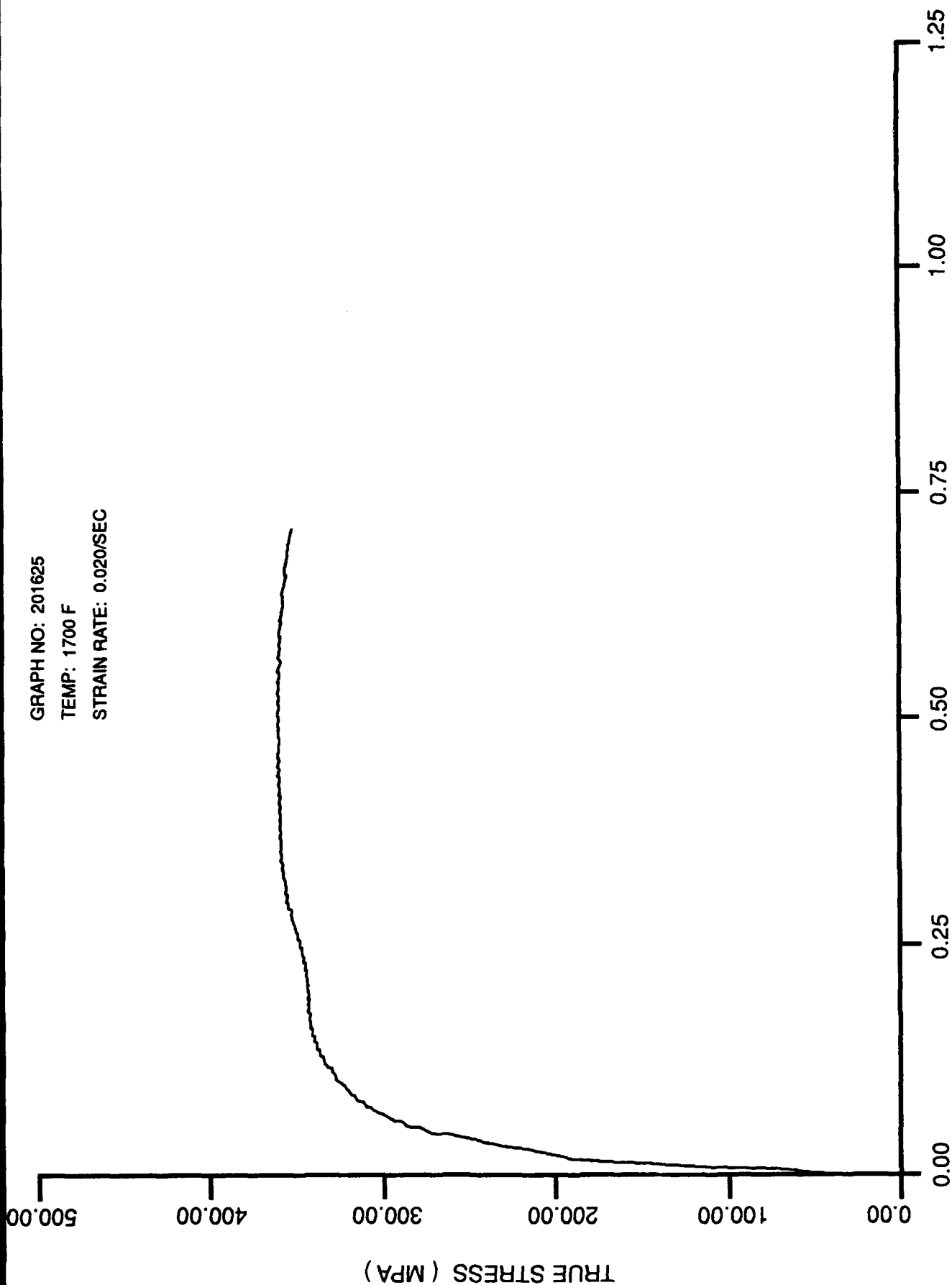


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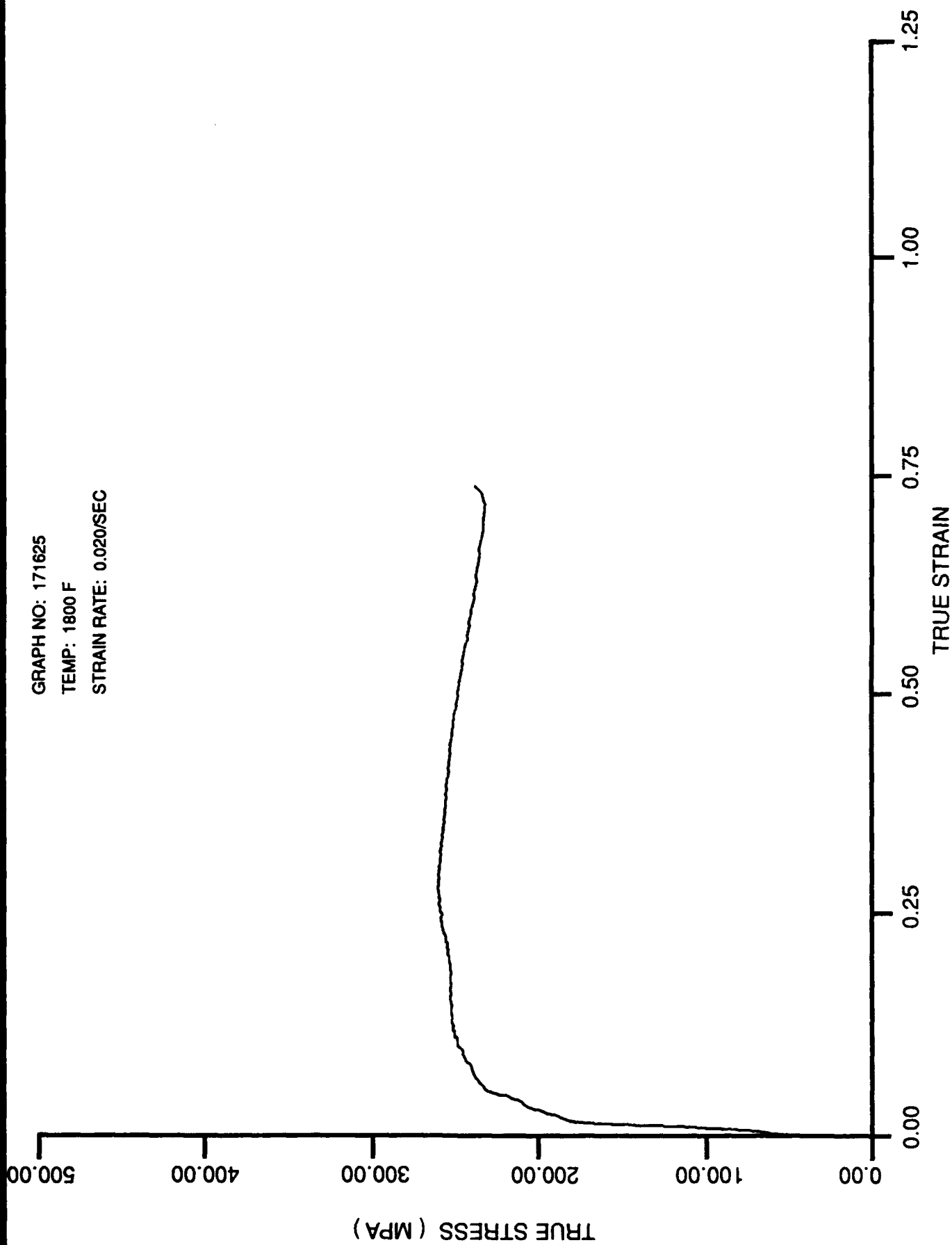




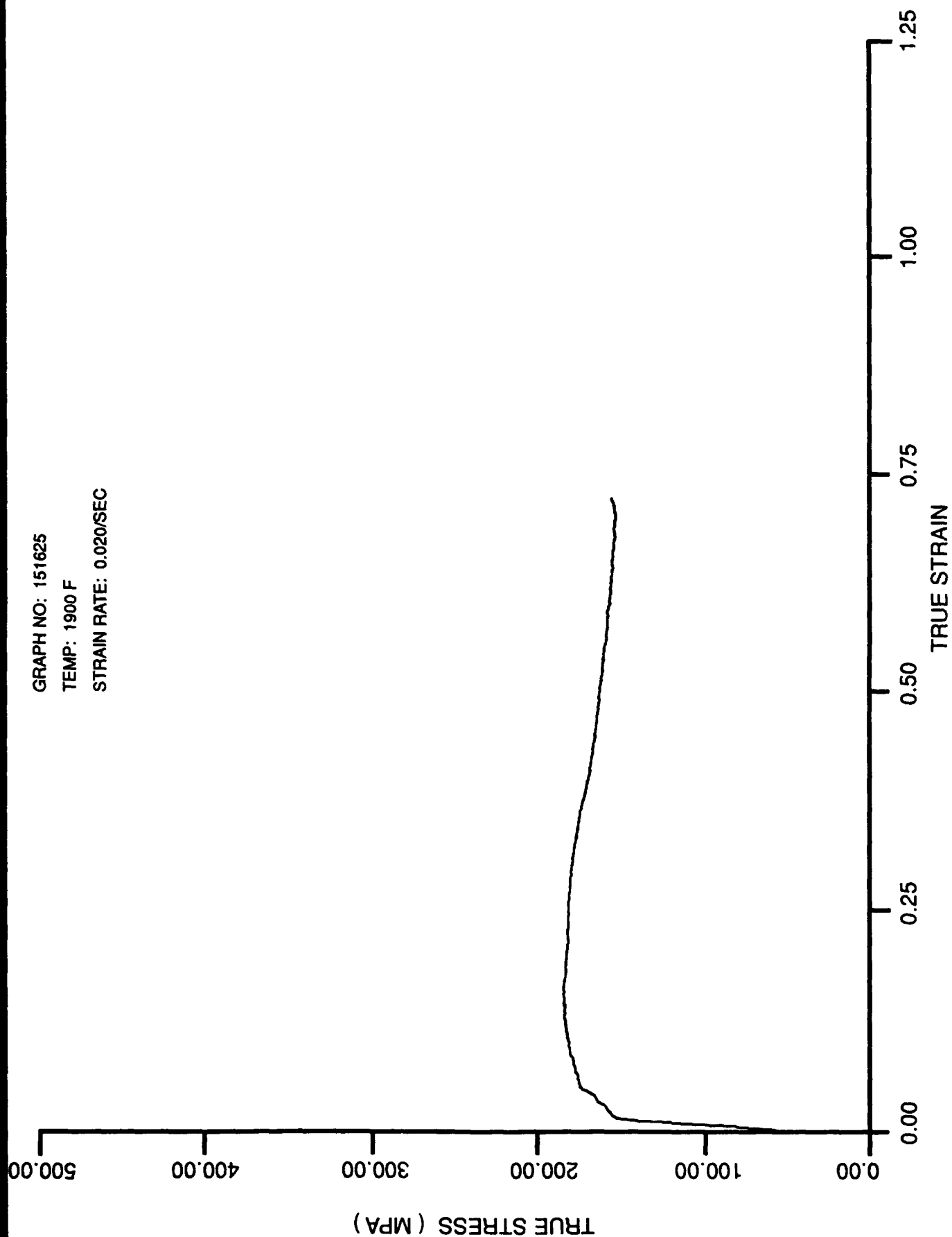
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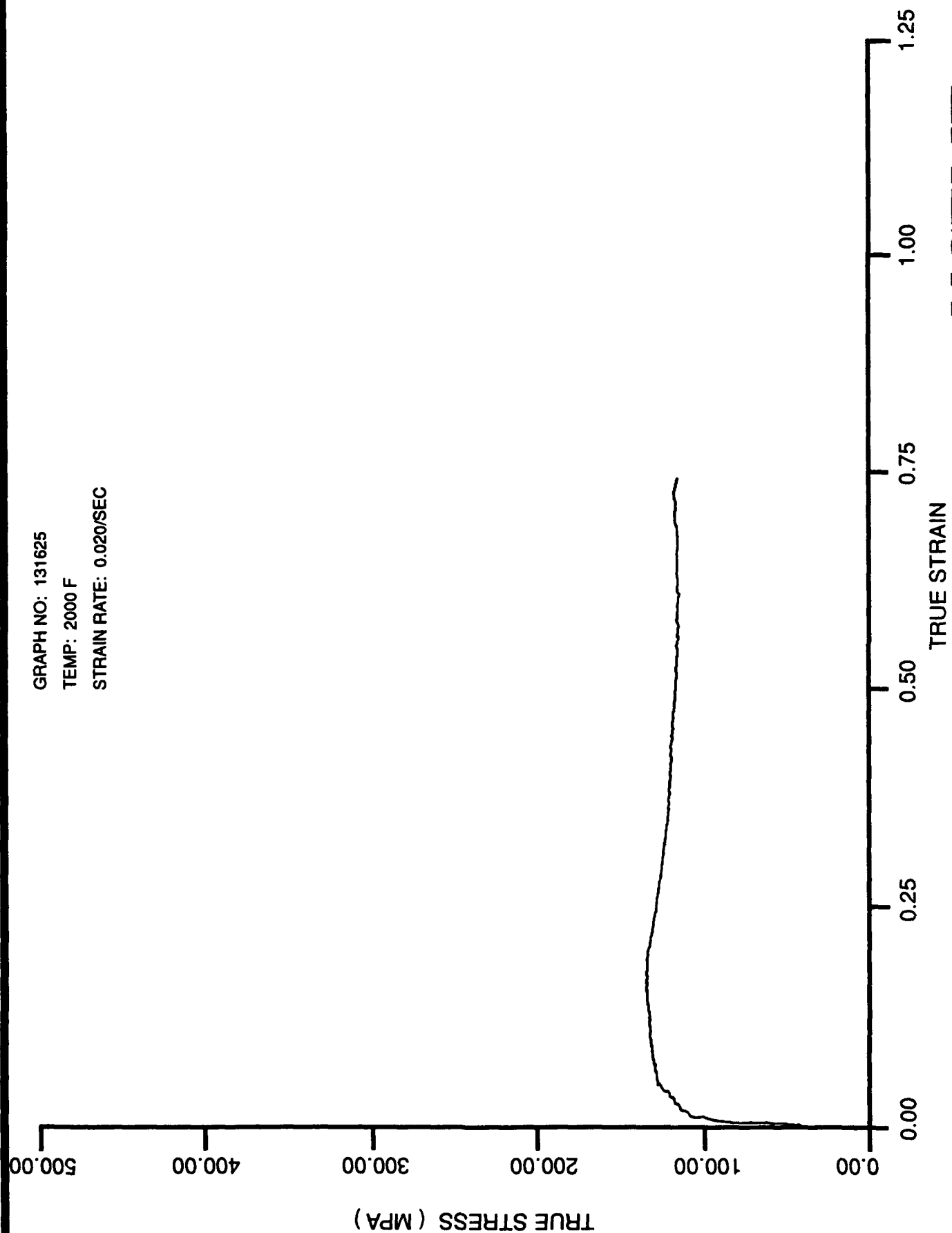


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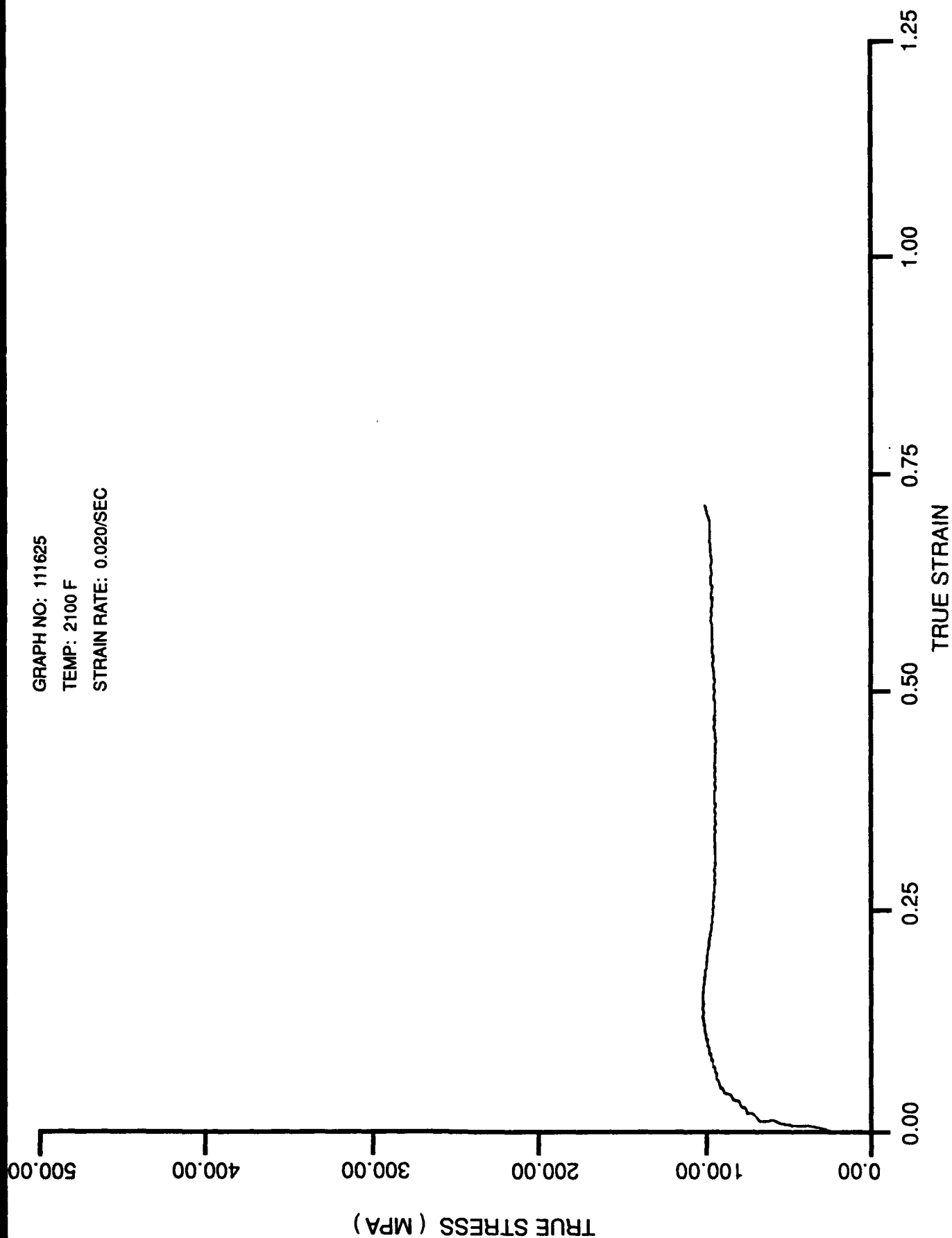
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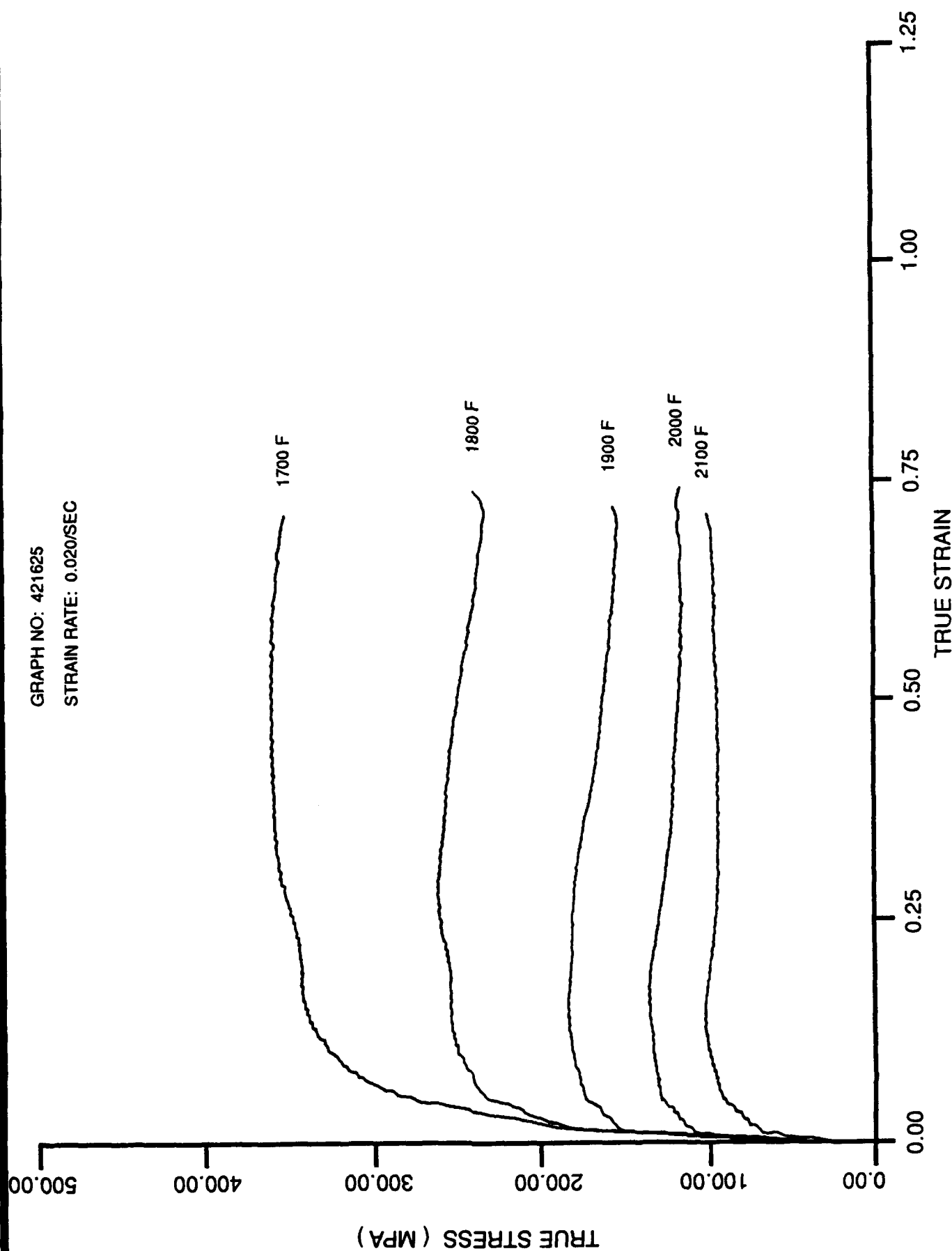
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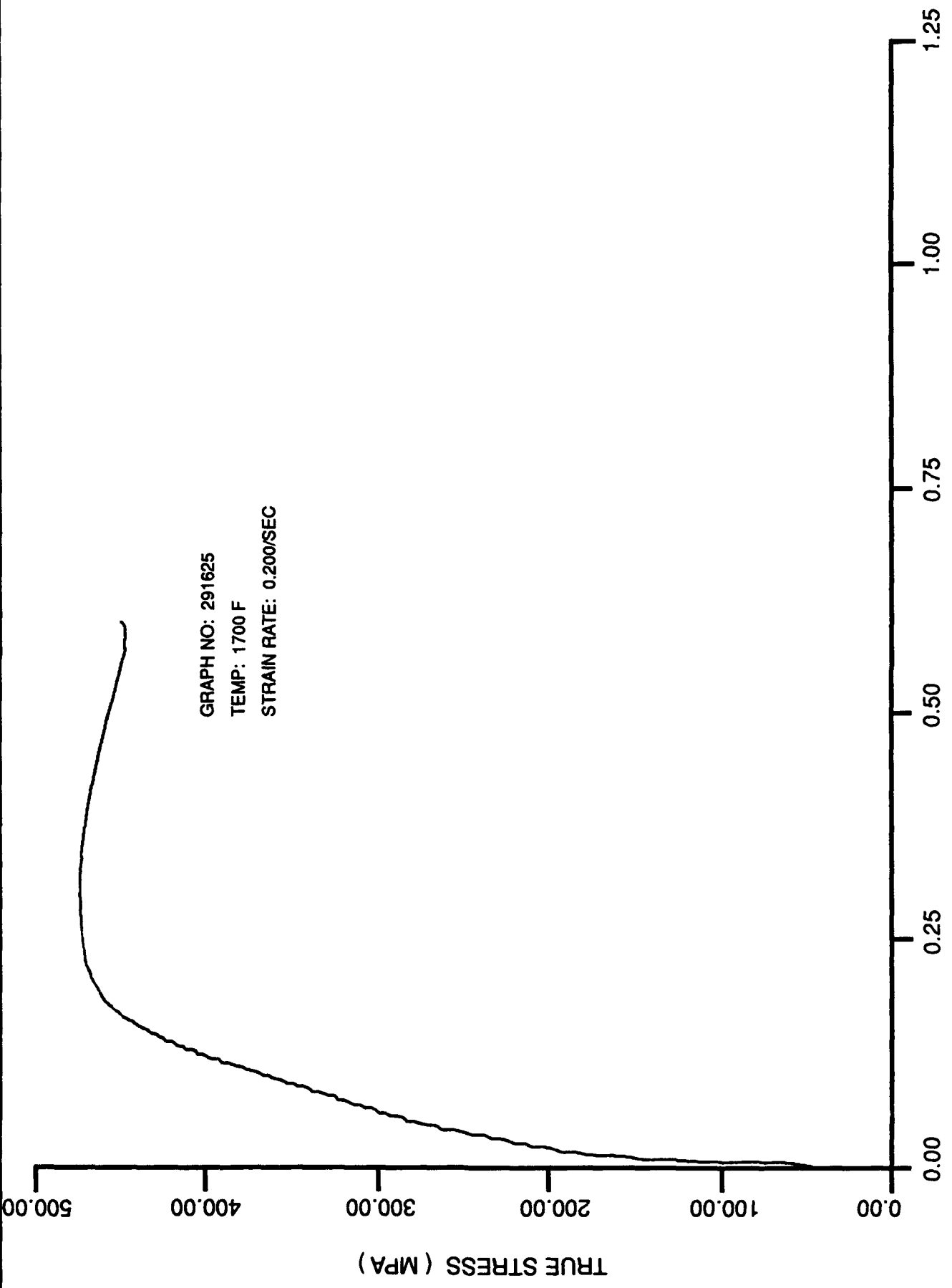


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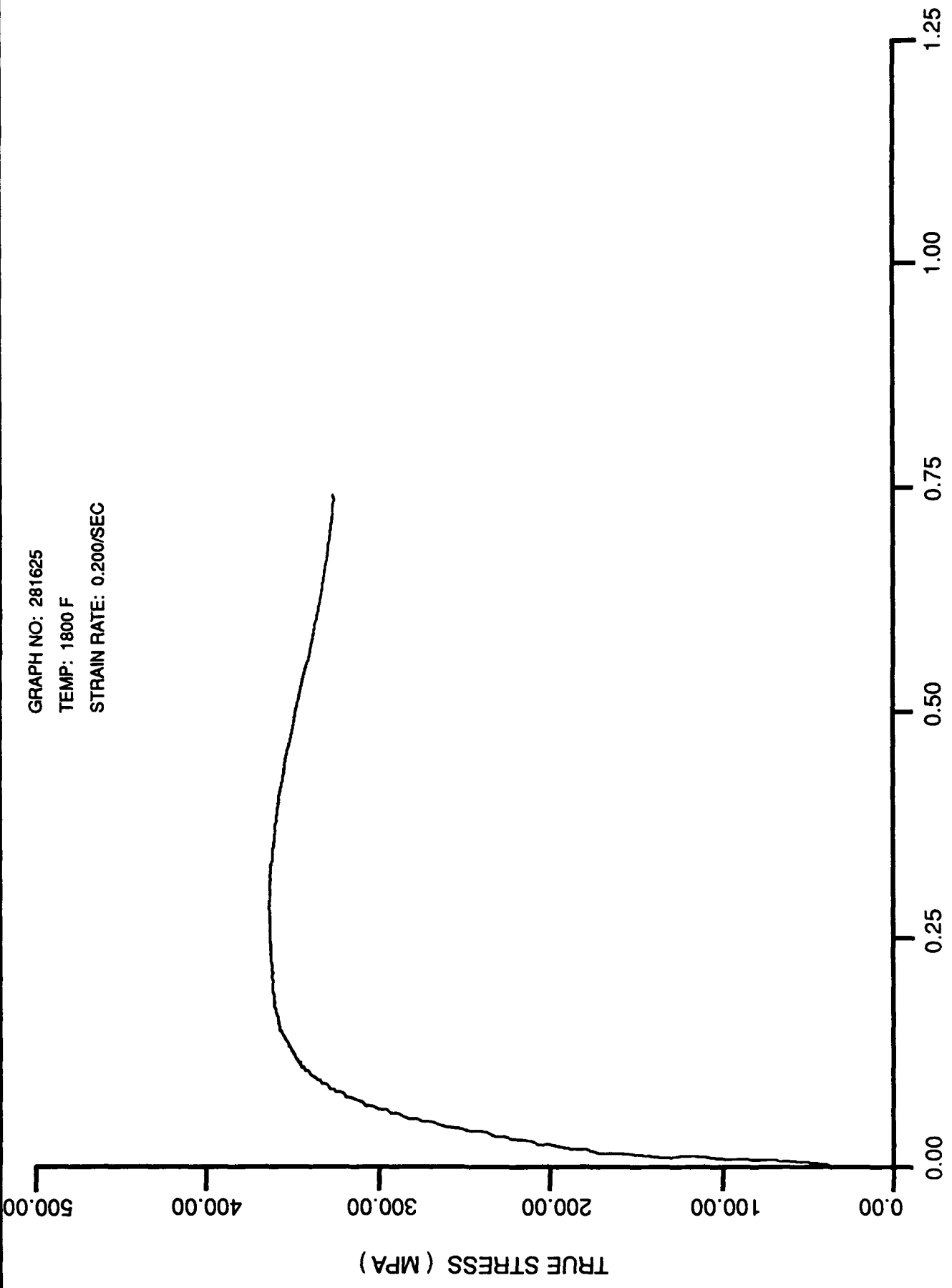


TRUE STRAIN



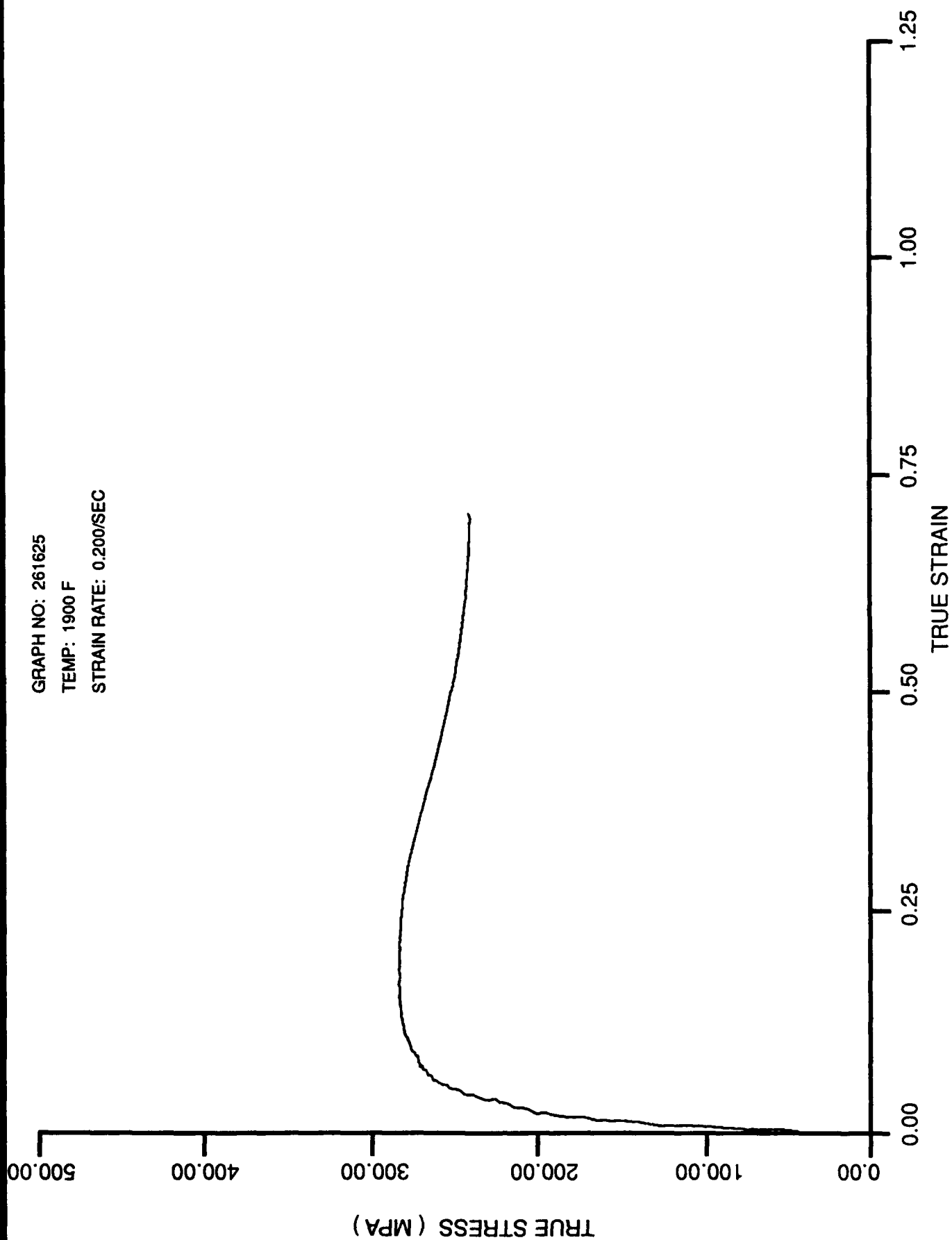
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TRUE STRAIN



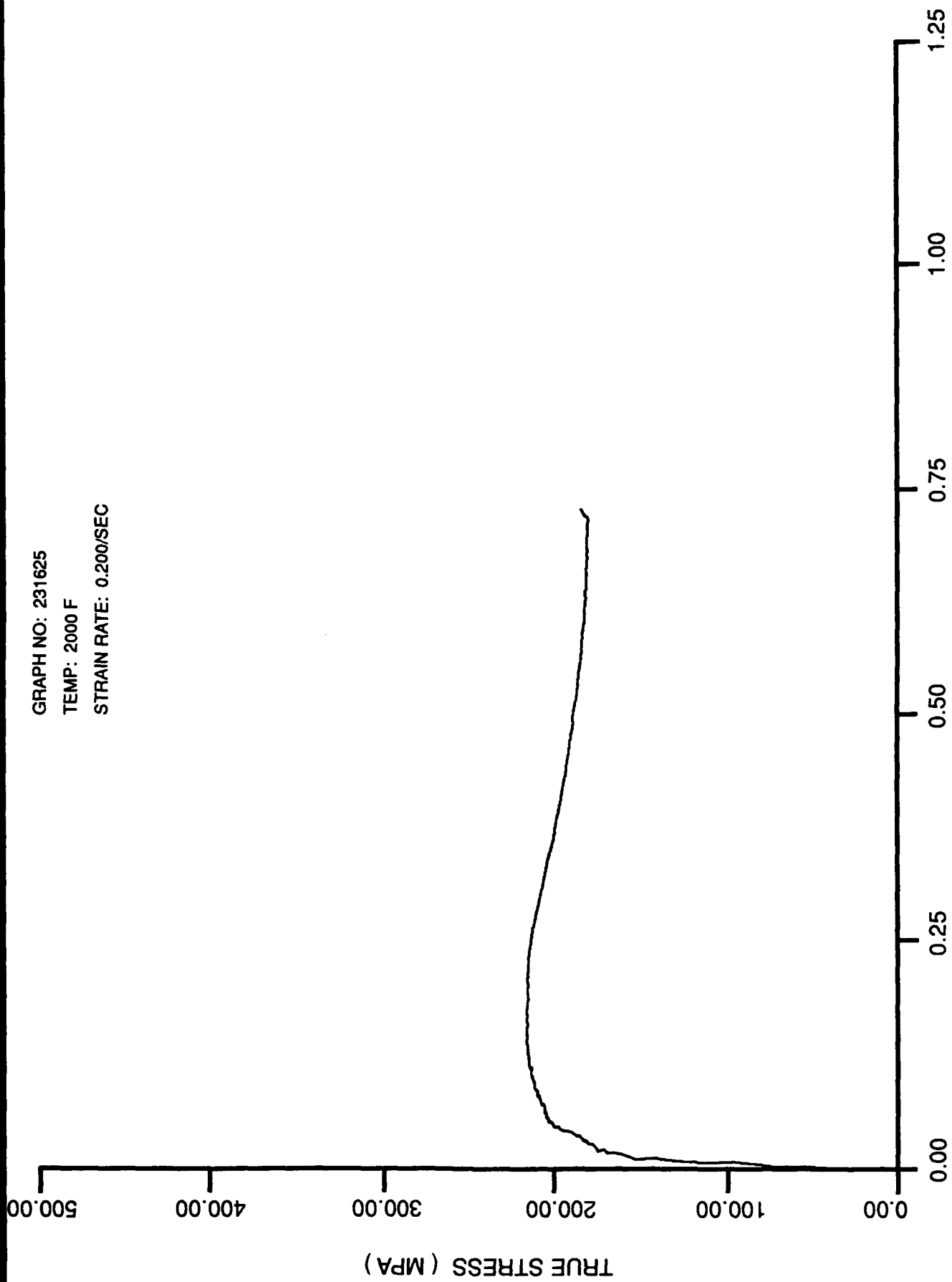
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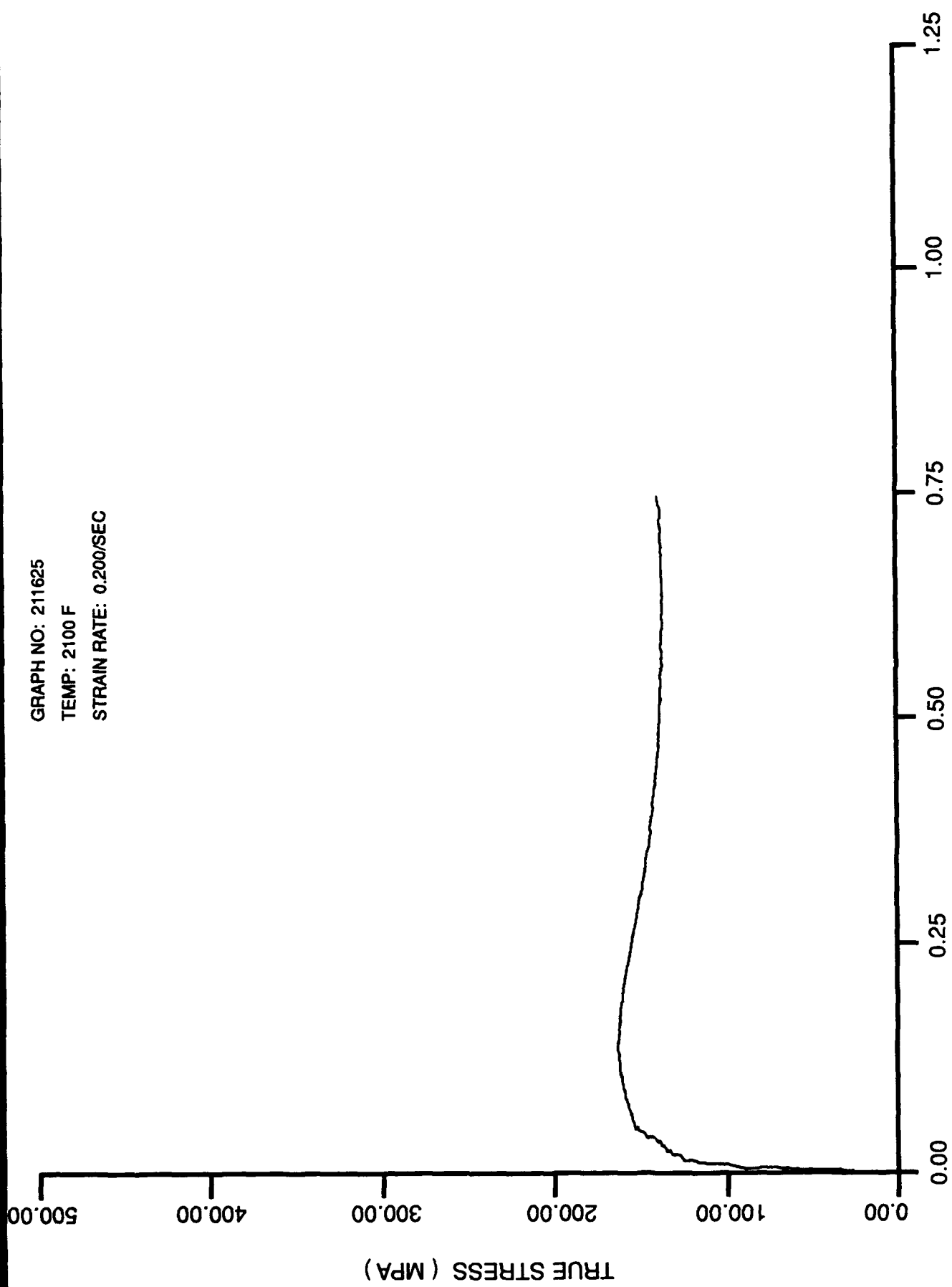
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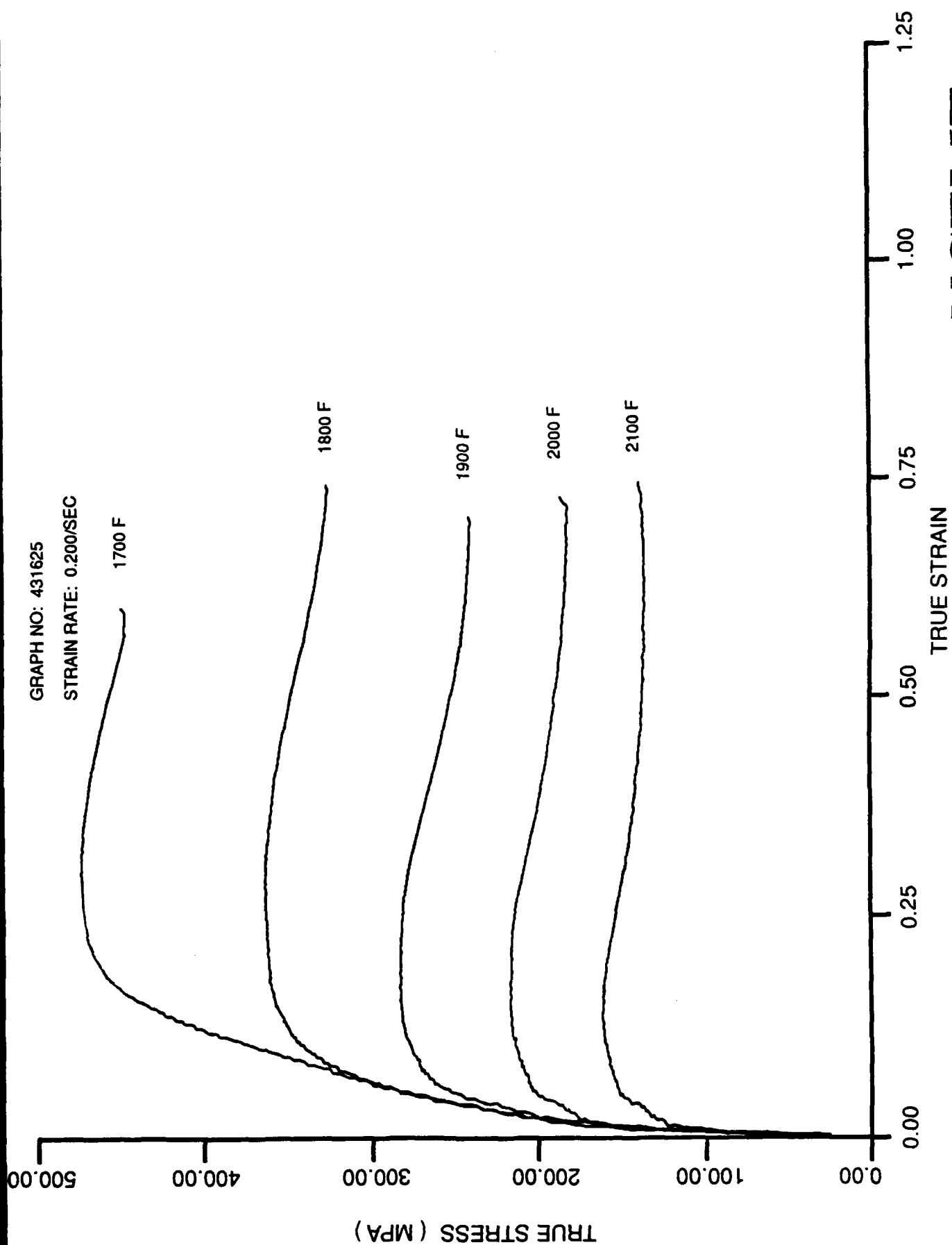
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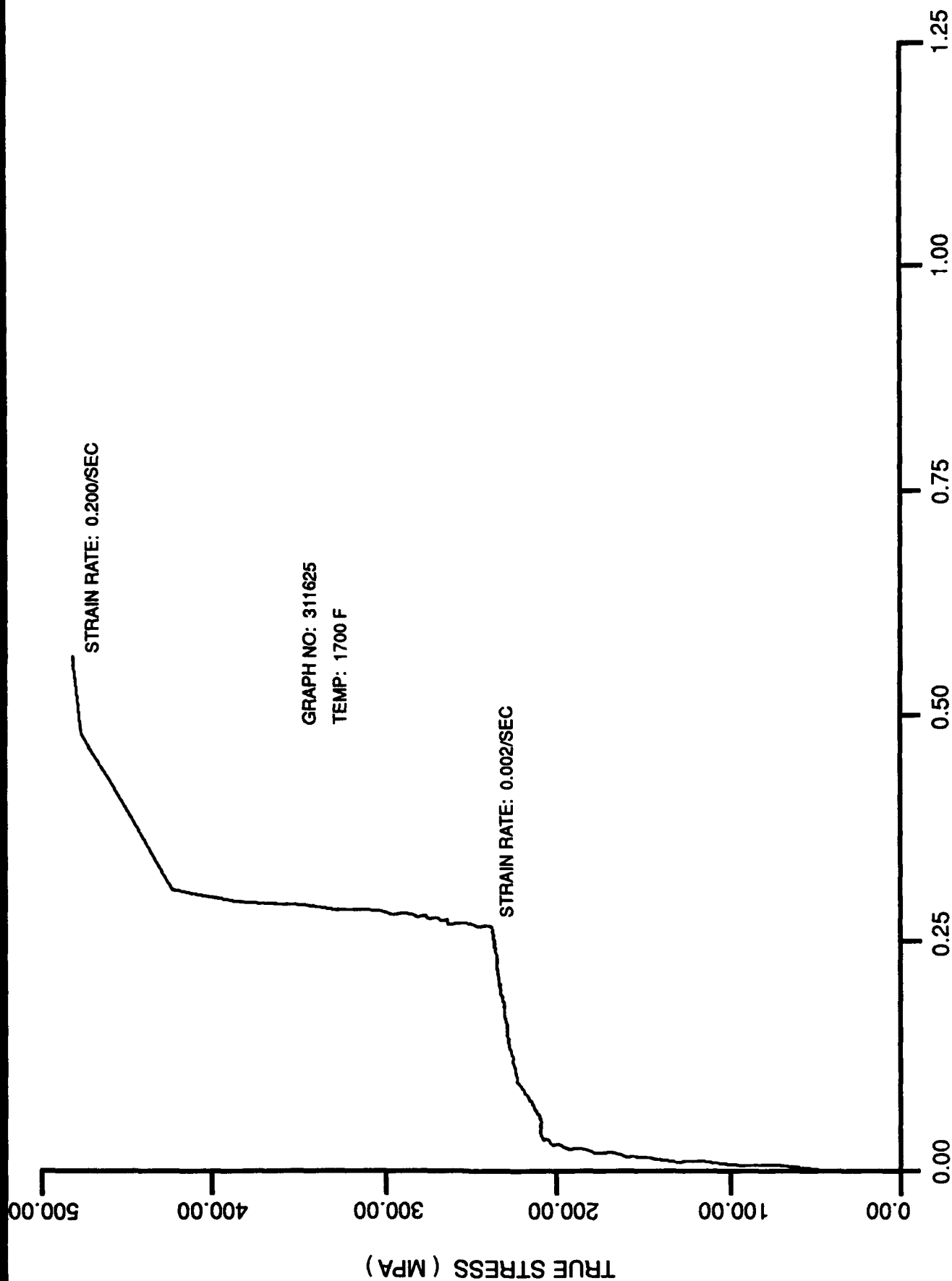


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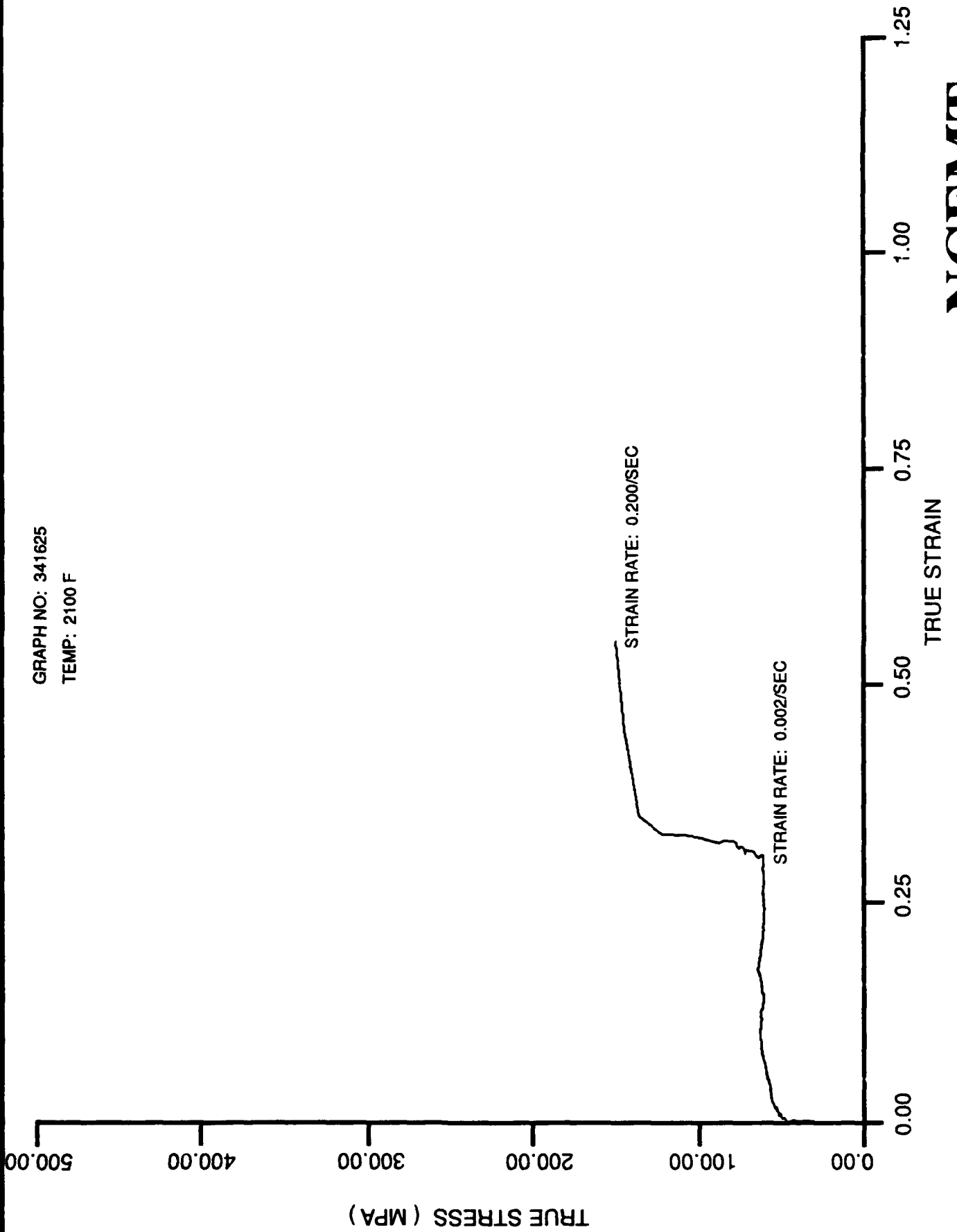


TRUE STRAIN



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